WHAT IS CLAIMED IS:

1. A suture material comprising an isolated, modified nucleic acid.

2. The suture material of Claim 1, wherein the suture material comprises at least 50% modified nucleic acid by weight.

3. The suture material of Claim 1, wherein the suture material comprises at least 50% modified nucleic acid by volume.

4. The suture material of Claim 1, wherein the modified nucleic acid is modified in at least one manner selected from the group consisting of: capping, crosslinking, methylation, ethylation and attachment of a protein or small molecule.

5. The suture material of Claim 1, wherein the modified nucleic acid comprises at least 95% DNA per total nucleic acid.

6. The suture material of Claim 1, further comprising a biodegradable copolymer.

7. The suture material of Claim 6, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.

8. A method of making a suture material comprising:

isolating a nucleic acid;

modifying the nucleic acid; and

forming a nucleic acid filament.

9. The method of Claim 8, wherein the nucleic acid comprises at least 95% DNA per total nucleic acid.

10. The method of Claim 8, wherein the modifying comprises at least one technique selected from the group consisting of: capping, crosslinking, methylation, ethylation, and attachment of a protein or small molecule.

11. The method of Claim 8, wherein forming the filament further comprises:

extruding the purified nucleic acid through a spinneret; and

drying the extruded nucleic acid.

12. The method of Claim 8, further comprising adding a biodegradable copolymer to the modified nucleic acid.

13. The method of Claim 12, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.

14. A biomaterial matrix comprising an isolated, modified nucleic acid.

15. The biomaterial matrix of Claim 14, wherein the matrix comprises at least 50% nucleic acid by weight.

16. The biomaterial matrix of Claim 14, wherein the matrix comprises at least 50% nucleic acid by volume.

17. The maxtix of Claim 14, wherein the nucleic acid comprises at least 95% DNA per total nucleic acid.

18. The matrix of Claim 14, wherein the modified nucleic acid is modified in at least one manner selected from the group consisting of: capping, crosslinking, methylation, ethylation and attachment of a protein or small molecule.

19. The matrix of Claim 14, further comprising a biodegradable copolymer.

20. The matrix of Claim 19, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.

21. The matrix of Claim 14, wherein the matrix comprises a hydrogel.

22. The matrix of Claim 14, wherein the matrix comprises a tissue scaffold.

23. The matrix of Claim 14, wherein the nucleic acid encodes a protein.

24. The matrix of Claim 23, wherein the protein is a wound healing factor.

25. A method of making a biomaterial matrix comprising:

isolating a nucleic acid;

modifying the nucleic acid; and

forming a biomaterial matrix.

26. The method of Claim 25, wherein the nucleic acid comprises at least 95% DNA per total nucleic acid.

27. The method of Claim 25, wherein the modifying comprises at least one technique selected from the group consisting of: capping, crosslinking, methylation, ethylation, and attachment of a protein or small molecule.

28. The method of Claim 25, wherein forming the biomaterial matrix further comprises:

freezing an aqueous solution of the nucleic acid; and

lyophilizing the frozen aqueous solution.

29. The method of Claim 25, wherein forming the biomaterial matrix further comprises:

preparing a solution of the nucleic acid; and

foaming the solution with supercritical carbon dioxide.

30. The method of Claim 25, wherein forming the biomaterial matrix further comprises forming a hydrogel of the modified nucleic acid.

31. The method of Claim 25, further comprising adding a biodegradable copolymer to the modified nucleic acid.

32. The method of Claim 31, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.

33. The method of Claim 25, wherein the nucleic acid encodes a protein.

34. The method of Claim 33, wherein the nucleic acid encodes a wound healing factor.

35. A method for making a nucleic acid biomaterial comprising:

isolating a nucleic acid; and

modifying the nucleic acid;

forming a biodegradable polymer from the nucleic acid.

36. The method of Claim 35, wherein the nucleic acid biomaterial comprises at least 50% nucleic acid by weight.

37. The method of Claim 35, wherein the nucleic acid biomaterial comprises at least 50% nucleic acid by volume.

38. The method of Claim 35, wherein the nucleic acid comprises at least 95% DNA.

39. The method of Claim 35, wherein the biodegradable polymer is a drug carrier or wound dressing.

40. The method of Claim 35, wherein the modifying comprises at least one technique selected from the group consisting of: capping, crosslinking, methylation, ethylation, and attachment of a protein or small molecule.

41. The method of Claim 35, further comprising adding a biodegradable copolymer to the modified nucleic acid.

42. The method of Claim 41, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.

43. The method of Claim 35, wherein the nucleic acid encodes a protein.

44. The method of Claim 43, wherein the nucleic acid encodes a wound healing factor.

45. A nucleic acid biomaterial comprising an isolated, modified nucleic acid.

46. The biomaterial of Claim 45, comprising at least 50% nucleic acid by weight.

47. The biomaterial of Claim 45, comprising at least 50% nucleic acid by volume.

48. The biomaterial of Claim 45, wherein the modified nucleic acid is modified in at least one manner selected from the group consisting of: capping, crosslinking, methylation, ethylation and attachment of a protein or small molecule.

49. The biomaterial of Claim 45, wherein the modified nucleic acid comprises at least 95% DNA per total nucleic acid.

50. The biomaterial of Claim 45, further comprising a biodegradable copolymer.

51. The biomaterial of Claim 50, wherein the biodegradable copolymer is selected from the group consisting of: polylactic acid, polyglycol alginate, polyglycolic acid, poly amino acids, polysaccharides, cellulose acetate, hyaluronic acid and collagen.